

ASCID AND AMEROSEIID MITES PHORETIC ON AUSTRALIAN MAMMALS AND BIRDS¹

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ABSTRACT

Various mites of a normally predacious or blossom-feeding habit are recorded from Australasia (including Western Australia), some associated with nectar-feeding vertebrates. Ascidae: the cosmopolitan *Blattisocius tarsalis* (Berlese), *B. keegani* Fox and *Proctolaelaps pygmaeus* (Müller) with various labels, including the lattermost from a native mouse, *Pseudomys nanus* (Gould) (Muridae); and *P. spencerae* sp. nov. from the honey possum, *Tarsipes spencerae* Gray (Tarsipedidae). Ameroseiidae: *Neocypholaelaps africanus* Evans from a lory, *Charmosyna pulchella* Gray (Psittacidae); *Hattena panopla* Domrow from *Melithreptus albogularis* Gould and *Myzomela obscura* Gould, and *H. cometis* sp. nov. from *Meliphaga flava* (Gould), *M. gracilis* (Gould) and *Acanthorhynchus tenuirostris* (Latham), all honey-eating birds (Meliphagidae); and the cosmopolitan *Kleemannia plumosa* (Oudemans) with various labels, including specimens from *P. nanus*. *Asperolaelaps* Womersley is newly synonymised with *Neocypholaelaps* Vitzthum.

INTRODUCTION

This contribution to the ectoparasites of Western Australia collected by Dr F.S. Lukoschus, Catholic University, Nijmegen, lists those few mesostigmatic mites — *Proctolaelaps* Berlese (Ascidae), *Kleemannia* Oudemans

¹ Results of Western Australia Field Programme 1976-1977, Field Museum of Natural History, Chicago, and Western Australian Museum, Perth. Participation of mammalogists made possible by generous gift of William S. and Janice Street, Ono. Aided in part by Grant R87-111 from Netherlands Organisation for Advancement of Pure Research (Z.W.O.), The Hague. Work at Bamaga, Queensland, aided by grant to R. Domrow from Australian Biological Resources Study. Dr D.A. Chant, University of Toronto, confirmed my identifications of species of *Blattisocius* Keegan. Miss Cobie Rudd prepared the illustrations.

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(Ameroseiidae) — associated only casually with rats, their normal habit being predacious, insecticolous, pollen-feeding etc. Such chance, but regular, transfers to blossom-feeding birds were reviewed by Fain, Hyland & Aitken (1977b).²

I also add a new species of *Proctolaelaps* with Western Australian Museum labels from the honey possum, ameroseiids in the genus *Hattena* Domrow collected from Queensland birds, and related snippets in my institute (including some from Western Australia).

The term 'holotrichous' refers to the setal condition in typical free-living dermanyssids (Evans & Till, 1965; Evans, 1969). Hosts are after Ride (1970) and Leach (1958). Depositories are abbreviated: WAM Western Australian Museum, Perth; FMNH Field Museum of Natural History, Chicago; QIMR Queensland Institute of Medical Research, Brisbane; QM Queensland Museum, Brisbane; CU Catholic University, Nijmegen.

ASCIDAE

This section is arranged after Lindquist & Evans (1965).

BLATTISOCIUS TARSALIS (BERLESE, 1918)

This widespread predator sometimes causes annoyance to workers handling insect-infested stored food products (Hughes, 1976). The only previous Australian records are those of Womersley (1954) from the Australian Capital Territory and South Australia.

Hosts and Localities

On crushed rape seed, Moora, W.A., 24.V.1973, Co-operative Bulk Handling (3 ♀♀, 2 pn, 1 ♂). In QIMR.

On stored sorghum, Darwin, N.T., 4.II.1974, C.S. Li (2 ♀♀, 1 ♂). In QIMR.

BLATTISOCIUS KEEGANI FOX, 1947

This widespread predator sometimes causes annoyance to workers handling insect-infested stored food products (Hughes, 1976). I know of no previous Australian record.

² *Hypoaspis rhinaria* Vitzthum, 1935 (emend.) also fits in this category, though its author considered it a predator on other mites on its host (a neotropical hummingbird, *Sericotes holosericeus* [Linnaeus] [Micropodiformes: Trochilidae]).

Host and Localities

Free-living, Arramall Cave, Arrowsmith River, near Dongara, W.A., 3.XI.1973, J.W.J. Lowry (2 ♀♀, 1 ♂, 1 pn). In QIMR.

Annoying man, symptoms first noted at Casino, N.S.W., but specimen taken at Brisbane, Q., 20.VII.1975, W.H.T. Yarrow (1 ♀). In QIMR.

PROCTOLAEELAPS PYGMAEUS (MÜLLER, 1859)

This cosmopolitan predator may cause annoyance to workers handling mite-infested stored food products (Hughes, 1976), or be associated with small mammals (Domrow & Nadchatram, 1978). Australian records include specimens from Western Australian timber shipped into South Australia (Womersley, 1956; Domrow, 1974).

Hosts and Localities

On western chestnut native mouse, *Pseudomys nanus* (Gould) (Rodentia: Muridae) (3045), Mitchell Plateau, W.A., 21.X.1976 (1 ♀). On *P. nanus* (3092), Port Warrender, W.A., 25.X.1976 (3 ♀♀). In WAM, FMNH, QIMR, CU.

On laboratory colony of a species of *Metallactus* Suffrian (Coleoptera: Cryptocephalidae), Sherwood, Q., X.1975, R. Gallagher (2 dn, 1 pn, 2 11). In QIMR.

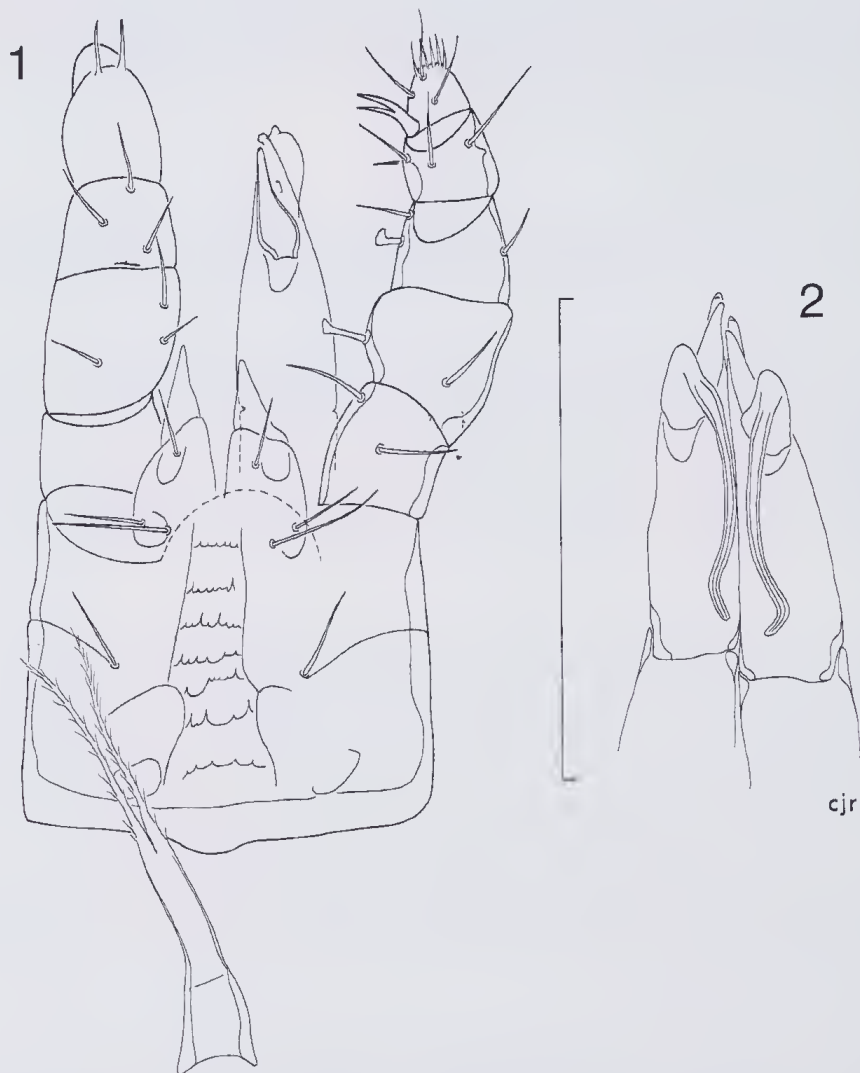
On coconuts, intercepted at quarantine in Melbourne, Vic., from Fiji, 6.VII.1976, M.L. Mekhamer (2 ♀♀, 3 ♂♂). In QIMR.

PROCTOLAEELAPS SPENCERAE SP. NOV.

In showing an accessory lobe rather than a pilus dentilis on the chelicerae in the female, and legs IV armed in the male, the new species fits in the atypical group of four recently described by Fain, Hyland & Aitken (1977a, b) from neotropical hummingbirds. However, it is distinct from them all in the structure of the insemination apparatus and in showing setae Z_{1-5} on the dorsal shield subequal; setae j_1 and z_3 , the deutosternal details, the outline of the female sternal shield and the width of the male ventrianal shield provide additional help in diagnosis. Further collecting will doubtless bridge the zoogeographical gap.

Female (Figs 1, 3-4): Basis capituli slightly wider than long, with setae *c* slender, exceeding sides of deutosternal groove, but barely reaching those of basis. Deutosternal denticles in seven irregular rows, the fifth and sixth opposite a break in margins of groove (cf. *P. dendroctoni* Lindquist &

Hunter, 1965, *P. subcorticalis* Lindquist, 1971 etc.). Hypostome with setae h_{1-2} subequal, shorter than h_3 ; cornicles distinct, but weak; internal malae and labrum not seen. Epistome a short rounded lobe not exceeding palpal trochanters. Palpal trochanter-genu and probably tibia holotrichous; seta al on femur and al_2 on genu clavate; tarsus shown diagrammatically, but with about three slender ventral setae, cluster of terminal rods and bifid claw. Chelicerae with basal segment short and digits occupying 35% of total length; fixed digit edentate, except for tip and indication of low tooth at midlength, pilus dentilis replaced by narrow diaphanous lobe externally, dorsal seta and pore not seen; movable digit edentate, except for tip; corona not developed.



Figs 1-2: *Proctolaelaps spencerae* sp. nov. 1: Capitulum and tritosternum ♀ (ventral, but true right palp dorsal). 2: Chelicerae ♂ (ventral). (All scales = 100 μ m.)

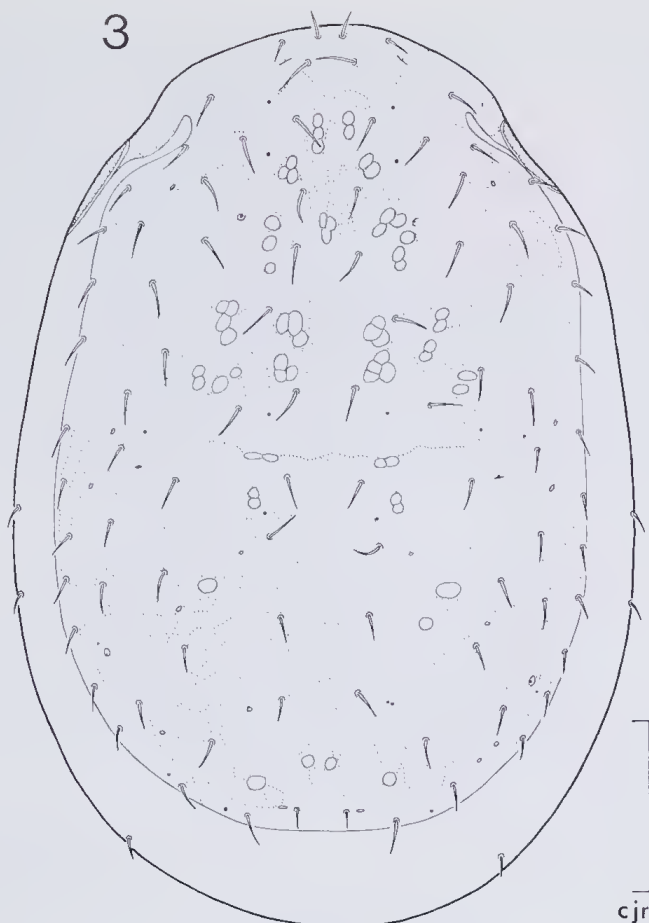


Fig. 3: *Proctolaelaps spencerae* sp. nov. Dorsum ♀.

Idiosoma 445-505 μm long, 295-350 μm wide (non-gravid); 515-525 μm long, 350-360 μm wide (gravid). Dorsal shield entire laterally, but with strong reticulation giving some indication of podonotal and opisthonotal limits; paired muscle insertions and pores (except strong pair of latter between setae S_{3-4}) less clear; podonotal portion hypertrichous (23 pairs, comprising holotrichous 22 plus r_6); opisthonotal portion also hypertrichous (21 pairs, comprising holotrichous 15 plus R_{1-6} — occasionally R_{1-5} — on margin; intercalary px wanting). Dorsal cuticle with about three pairs of setae.

Tritosternal base unarmed; laciniae divided only in distal three-fifths, lightly ciliated. Presternal cuticle striate, bearing two transverse jugular shields. Sternal shield subquadrate, anterior margin slightly convex, posterior margin variable (usually slightly concave, but sometimes transverse or even slightly convex); with exaggerated cornua reaching out between coxae I-II; surface reticulate, especially around margins, bearing three pairs of setae and

two pairs of pores. Setae *mst* and pores on small shields distinct from larger endopodal shields III-IV. Genital shield slightly expanded and slightly rounded behind coxae IV; surface textureless, except for weakly rayed and short operculum; setae *g* set in from margin, but associated pores well free of shield. Anal shield variably ovate, surface with muscle insertions and distinct reticulations; cribrum narrow; anus centrally placed, almost wholly behind setae *aa*, but well in front of *pa*. Metapodal shields distinct. Ventral cuticle with 10 to 12 pairs of setae and some paired pores. Peritremes distinctly crenulate, short, reaching forward only to level of condyles of coxae II; peritrematal shields fused humerally with dorsal shield, but free of exopodal shields II-IV. Insemination apparatus visible as increasingly thick adductor canals leading to medusoid maturation pouches. Only three specimens (from Ferdacuttup) gravid, egg ovate, 225-255 μm long, 140-145 μm wide; shell textureless.

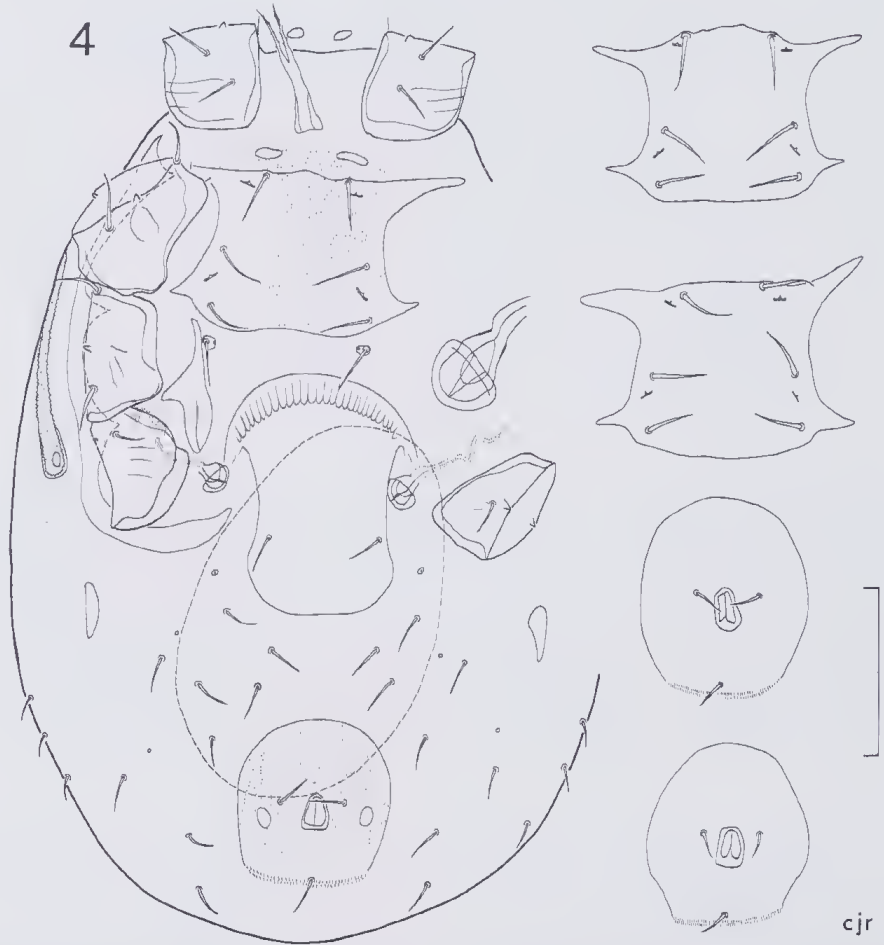
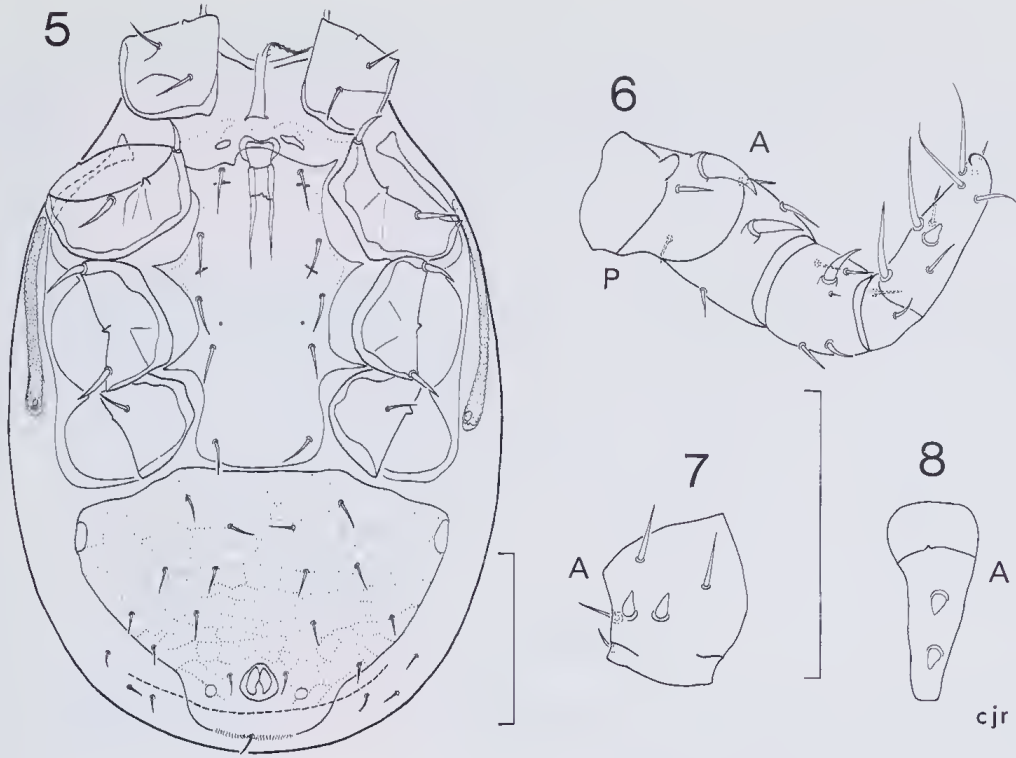


Fig. 4: *Proctolaelaps spenceri* sp. nov. Venter ♀ (with variant sternal and anal shields).



Figs 5-8: *Proctolaelaps spencerae* sp. nov., ♂. 5: Venter. 6: Femur-tarsus IV (ventral and lateral setation). 7: Femur II (ventral and lateral setation). 8: Tarsus II (modified ventral setation).

Leg setation holotrichous, with one exception: unideficient on femur I (one *pv*). All setae as in *Hattena panopla* Domrow below, except that they are simple. No spine on anterodorsal margin of coxa II. Pulvilli simple.

Male (Figs 2, 5-8): Capitulum as in ♀, except as follows. Movable digit of chelicerae with elongate, retrorse and apically sinuous spermatodactyl.

Idiosoma 420 μm long, 290 μm wide. Dorsum as in ♀, except that shield entirely covers dorsal cuticle.

Venter undistinguished and as in ♀, except as follows. Sternogenital shield virtually textureless; ventrianal shield reticulate, with seven pairs of usurped ventral setae and incorporating metapodal shields. Ventral cuticle with about three pairs of setae. Peritremes shorter, confined to venter.

Legs inconveniently folded, but seen to be as in ♀, setation modified as follows (cf. *Lasioseius corticeus* Lindquist, 1971). Leg II: femur with two basal *v* spur-like; tarsus with *av*₂₋₃ spur-like. Leg IV (and to much lesser extent III): trochanter-femur with *al* heavily spinose (also small rounded process on distal margin of basifemur); genu-tibia with *av* spinose; tarsus with *av*₂₋₃ blade-like and *pv*₂ spur-like.

Host and Localities

On honey possum, *Tarsipes spencerae* Gray (Marsupialia: Tarsipedidae) (WAM 6426), Ferdacuttup, W.A., 20.XI.1969, T. & R. Goldfinch (holotype ♀, allotype ♂, 51 paratype ♀♀). In WAM (including holotype and allotype), FMNH, QIMR, CU.

On *T. spencerae* (WAM M4685), Green Range, Albany, W.A., 25.VIII.1961, T.C. Scott (143 paratype ♀♀, 2 paratype ♂♂). In WAM, FMNH, QIMR, CU.

(Dr Lukoschus has since kindly mounted the balance of this material from spirit [five ♀♀ from Ferdacuttup, 406 ♀♀ from Green Range — these are not types]. None carries a formed [i.e. shelled] egg, suggesting [with the paucity of males and the absence of immatures] that their association with the honey possum is simply one of phoresy.)

AMEROSEIIDAE

This section is arranged after Evans (1963a) and Ishikawa (1972). Gravatt (1969), Allred (1970) and Baker & Delfinado (1976) listed species from New Zealand, New Guinea and Nepal.

Asperolaelaps was originally described as a neoparasitid genus (Womersley, 1956), but, in two paratype ♀♀ of *A. rotundus* Womersley in QIMR, the capitulum (palpi holotrichous), dorsal (to include all 10 pairs of setae originally shown by me as free in cuticle, one additional pair each in positions z_6 and J_5 , and additional small [anterior] pair on penultimate pair of tubercles, thereby making up 29 pairs typical of *Neocypholaelaps* Vitzthum), sternal and anal shields, and leg setation (e.g. four unideficiencies noted on femora I-II and genu-tibia I in *Hattena* below [other segments holotrichous, except, apparently, unideficient femur IV 1-3/1-0]) are now seen to be ameroseiid, and the transfer and new generic synonymy is made.

Hattena was originally described as a laelapid *s.l.* genus (Domrow, 1963), but the capitulum, dorsal, sternal and anal shields, and leg setation (e.g. four unideficiencies noted on femora I-II and genu-tibia I below³) are now seen to be ameroseiid, and the transfer is made. It is near *Neocypholaelaps* (Evans, 1963a; Mo, 1969), but constant differences (fewer pairs of setae on dorsal shield, usurped ventral setae on anal shield of male etc.) support its present retention.

³ In this respect, Evans' illustrations and tables (1963a) do not agree, and I have used his later, definitive account (1963b).

NEOCYPHOLAEELAPS AFRICANUS EVANS, 1963a (emend.)

In size, the specimens below (dorsal shield 330-375 μm long, setae J_5 [formerly Z_5] 13-16 μm long) match the original specimens from African apid bees better than those from Queensland apids only provisionally assigned to the species (Evans, 1963a).

Host and Locality

On little red lory, *Charmosyna pulchella* Gray (Psittaciformes: Psittacidae), Opanabu, Nowata, P.N.G., 8.VII.1969, W.B. Hitchcock (8 ♀♀). In QIMR.

HATTENA PANOPLA DOMROW, 1966

This interesting species was previously known only from a single female taken from the nares of a brown honeyeater, *Gliciphila indistincta* (Vigors & Horsfield) (Meliphagidae) in coastal Queensland some 1,375 km SSE of the present locality. (Since writing this, I have seen Fain & Lukoschus' record [1979] from Western Australia.)

Female (Figs 9-10): Epistome a smooth shallow lobe not exceeding palpal trochanters.

Metapodal shields almost linear as in ♂, clear only in older specimens. Insemination apparatus visible only as adductor canals. Egg obovate, 315 μm long, 175 μm wide (max.); shell textureless.

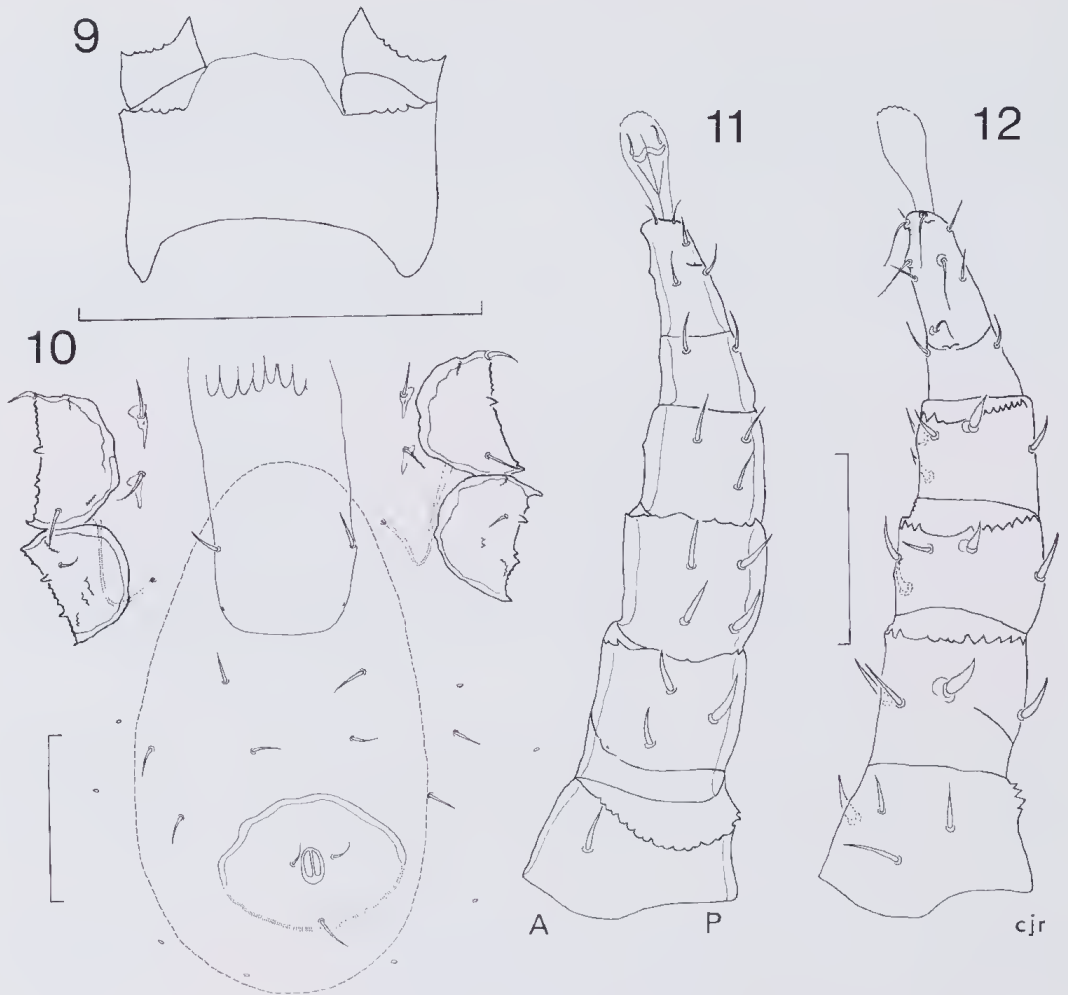
Leg setation confirmed as holotrichous (including femur III), with five exceptions: one additional seta (pl_2) on genu IV as in *Androlaelaps* Berlese etc., and unideficiencies on femur I (one pv), femur II (one ad) and genu-tibia I (presumably pd_3 , pd_2 having moved somewhat basad to fill vacancy). All setae (including those on capitulum and idiosoma) simple, except for an occasional lateral barbule on the very strongest; none on femora-genua I-II unduly strengthened.

Male (Figs 11-15): Capitulum essentially as in ♀, but cornicles flared and diaphanous, and d setae on palpal femur-genu stronger. Chelicerae stouter than in ♀; fixed digit bidentate; movable digit shorter, with paler baso-external excrescence giving rise to retrorse, slenderly tapering spermatodactyl.

Idiosoma stouter than in ♀, 585 μm long, 495 μm wide. Dorsum essentially as in ♀, but shield much more extensive posteriorly, taking in row of four setae flanking posterior margin in ♀.

Tritosternum with short median (third) prong. Sternal, metasternal and genital shields fused, with distinct cornua laterally; anterior margin bi-convex, divided by genital aperture; posterior margin horned, transverse

and free of body surface (striate cuticle visible beneath, cf. ♂ of *Macronyssus leucippe* [Domrow], see Domrow [1977]); surface textureless (but with indications of muscle insertions on genital portion), bearing usual five pairs of setae (*mst* strengthened) and three pairs of pores (minute). Ventrianal shield subcircular, but with characteristic incision on anterior margin; surface marked by reticulations and muscle insertions, bearing anus in posterior portion, and one pair of setae anteriorly in addition to usual three setae (*pa* strongest) and pair of pores; cribrum linear. Metapodal shields weak, almost linear. Ventral cuticle with three pairs of setae and five pairs of pores (in addition to pair of pores on cuticle beneath portion of anal shield that is free of body surface posteriorly). Peritrematalia as in ♀.



Figs 9-12: *Hattena panopla* Domrow. 9: Basis capituli ♀ (dorsal). 10: Hysterosoma ♀ (ventral). 11: Trochanter-tarsus III ♂ (dorsal setation). 12: Trochanter-tarsus III ♂ (ventral and lateral setation).

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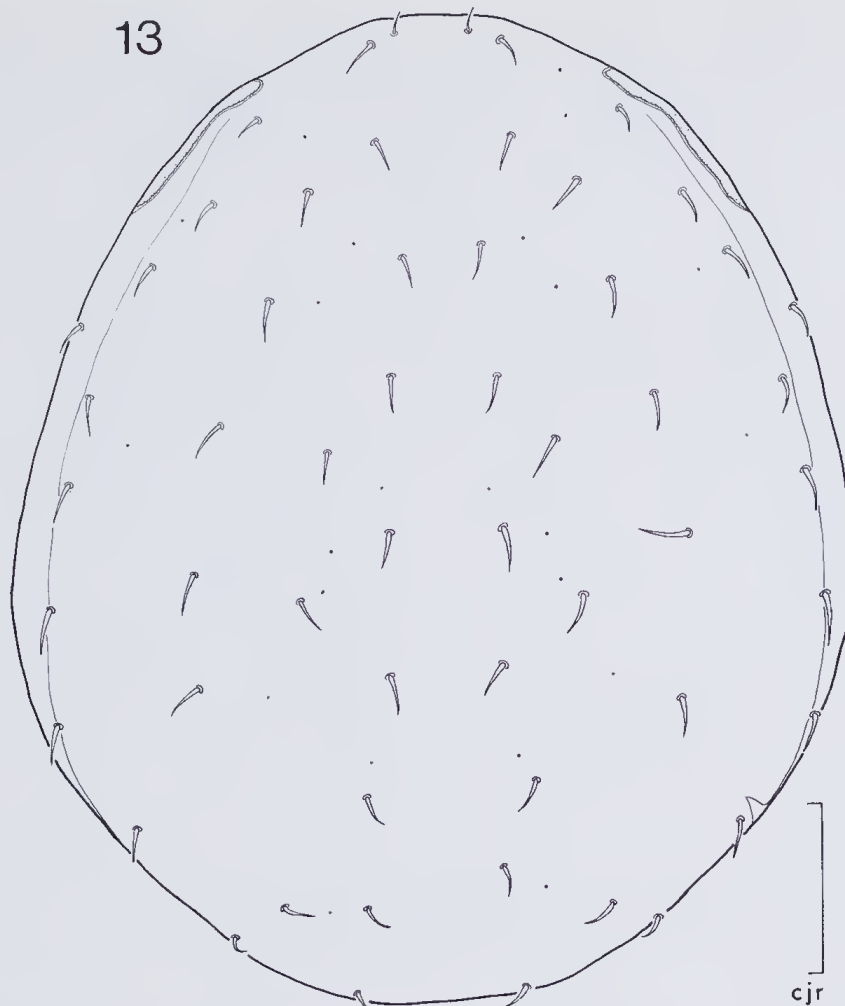


Fig. 13: *Hattena panopla* Domrow. Dorsum ♂.

Leg setation as in ♀, except femur III 1-3/2-1 (i.e. one additional *v*); trochanter II abnormally 1-0/3-2 on one side (i.e. one additional, and strong, *pl*). Legs II-III incrassate, with *pv* on coxae, two *pv* on femur II, and *pv* on genu-tibia II and femur-tibia III strengthened and set on small blunt tubercle; also with *av*₁₋₃ and *pv*₁₋₂ on tarsi associated with small acute tubercle, but normal.

Deutonymph (Fig. 16): Capitulum and legs as in ♀, except femur III 1-3/2-1 (i.e. one additional *v*, even on one side of one specimen where genu-tarsus are stunted and increasingly hypotrichous).

Idiosoma 475 μm long, calculated to be 380 μm wide. Dorsum essentially as in ♂, but shield with indications of posterolateral incisions seen in ♀ rather clearer and surface uniformly granulate, without distinct reticulations.

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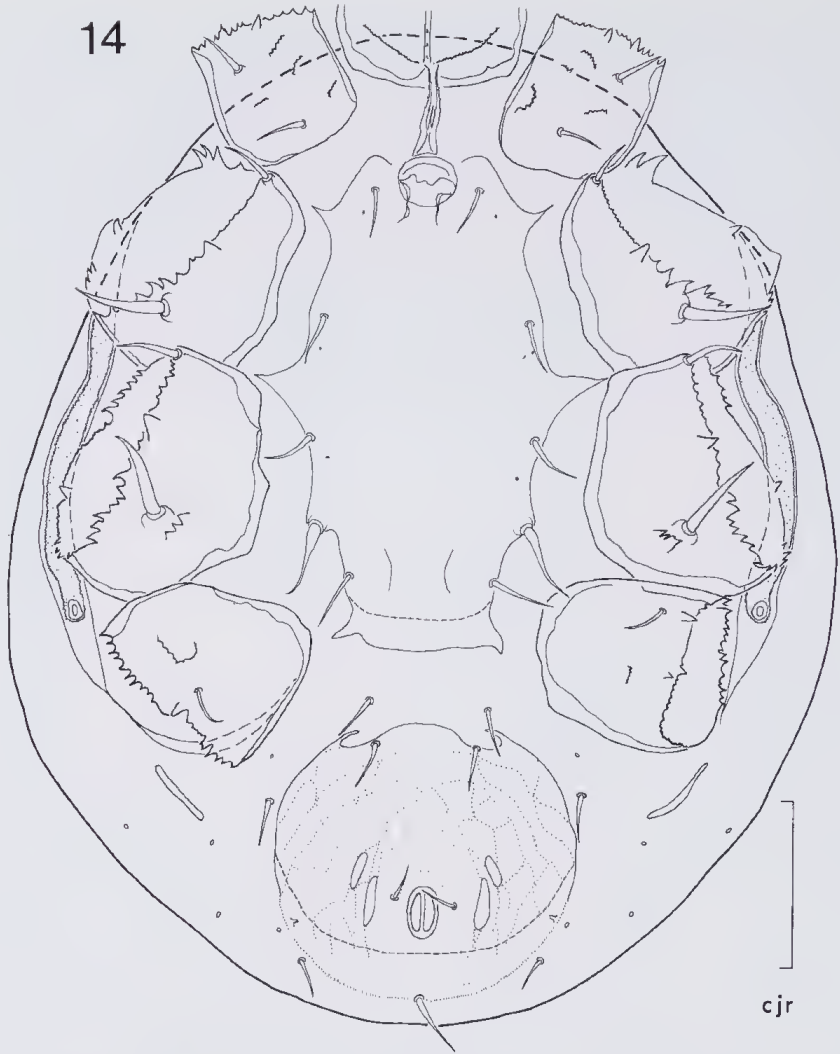


Fig. 14: *Hattena panopla* Domrow. Venter ♂.

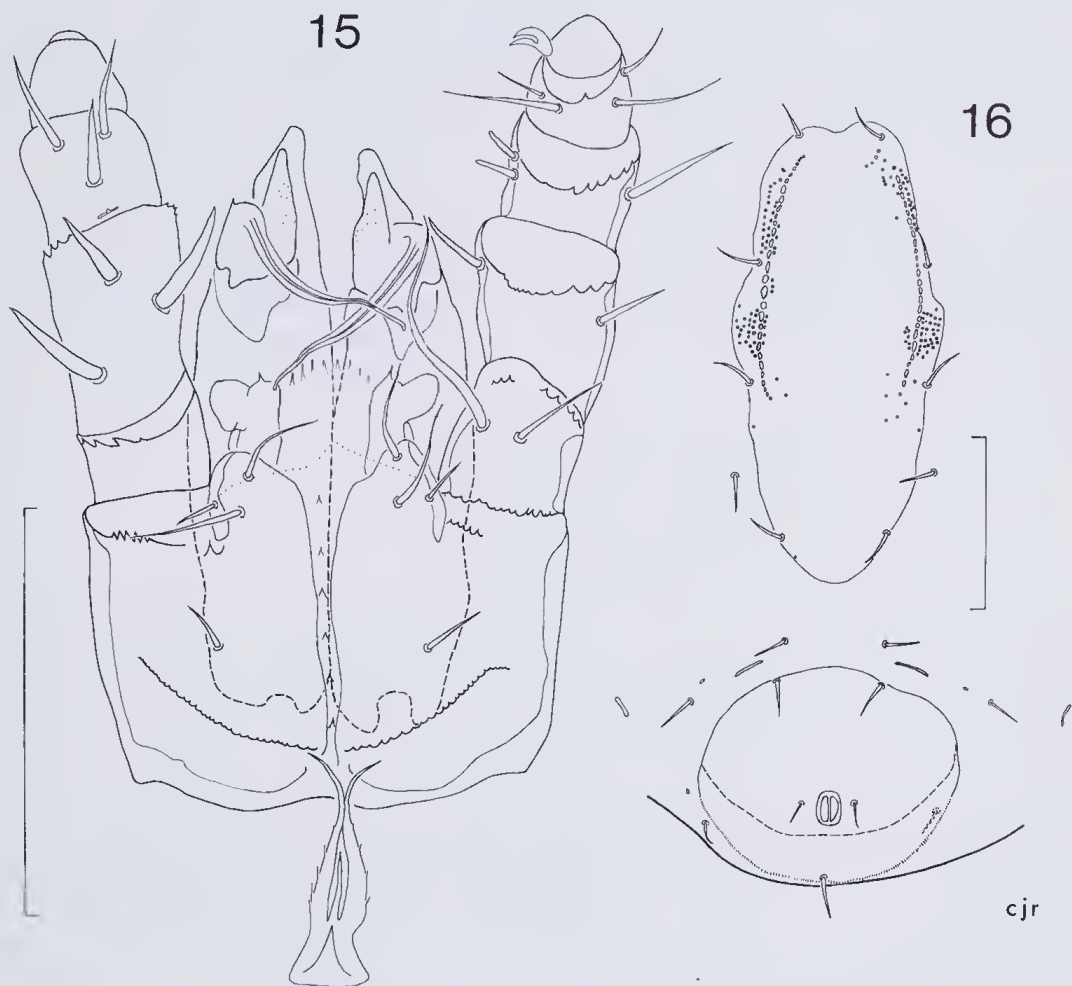
Tritosternum as in ♀. Sternogenital shield biconvex anteriorly, somewhat expanded midlaterally (i.e. with indications of cornua between coxae II-III), and roundly tapered between coxae IV; surface with heavy longitudinal texture submarginally from setae st_1 to st_3 , bearing st_{1-3} and g , and four pairs of pores (minute); mst free in cuticle. Venter otherwise as in ♂, except that two shieldlets in cuticle have not fused with ventrianal shield (cuticle somewhat crinkled, and some pores probably not seen).

Hosts and Localities

Running over beak and in and out of nostrils of white-throated honey-eater, *Melithreptus albogularis* Gould (Passeriformes: Meliphagidae),

Higginsfield, Bamaga, near Cape York, Q., III.1975, R. Domrow & J.S. Welch (1 ♀). In QM.

In same circumstances on dusky honeyeater, *Myzomela obscura* Gould (Meliphagidae), Higginsfield etc. (4 ♀♀, 1 ♂, 2 dn). In QM, QIMR.



Figs 15-16: *Hattena panopla* Domrow. 15: Capitulum and tritosternum ♂ (ventral, but true right palp dorsal). 16: Sternogenital and anal shields dn.

HATTENA COMETIS SP. NOV.

This species is near *H. erosa* Domrow, 1963, but, in the female, shows distinct differences in the length of the peritremes (reaching level of posterior margins of coxae I rather than II), and the reduced setation of the dorsal shield (notably z_6 absent) and legs (notably genua II-III as detailed

below). Males are separable at a glance (setation of dorsal shield, armature of legs etc.).

The specific name is the Greek adjective *κομητης* (masc.), *κομητις* (fem.), wearing long hair.

Female (Figs 17-18): Capitulum as in *H. erosa*, including unidifferentiated palpal trochanter; palpal femur, genu and probably tibia holotrichous (setae al_{1-2} on genu spatulate). Epistome a simple lobe somewhat more rounded than in *H. panopla*, but still not exceeding palpal trochanters. Fixed digit of chelicerae with narrow hyaline lobe running length of external face.

Idiosoma 450 μm long, 350 μm wide (not gravid). Dorsum as in *H. erosa*, except as follows. Shield with reticulation polygonal in general, but tending to longitudinal posteromedially (cf. *H. panopla*); with fewer pairs of setae (19, taking 2 as average of 2.2, 1.3 and 1.3 setae in posterolateral angles); z_6 absent. Marginal cuticle with 18-20 pairs of short setae.

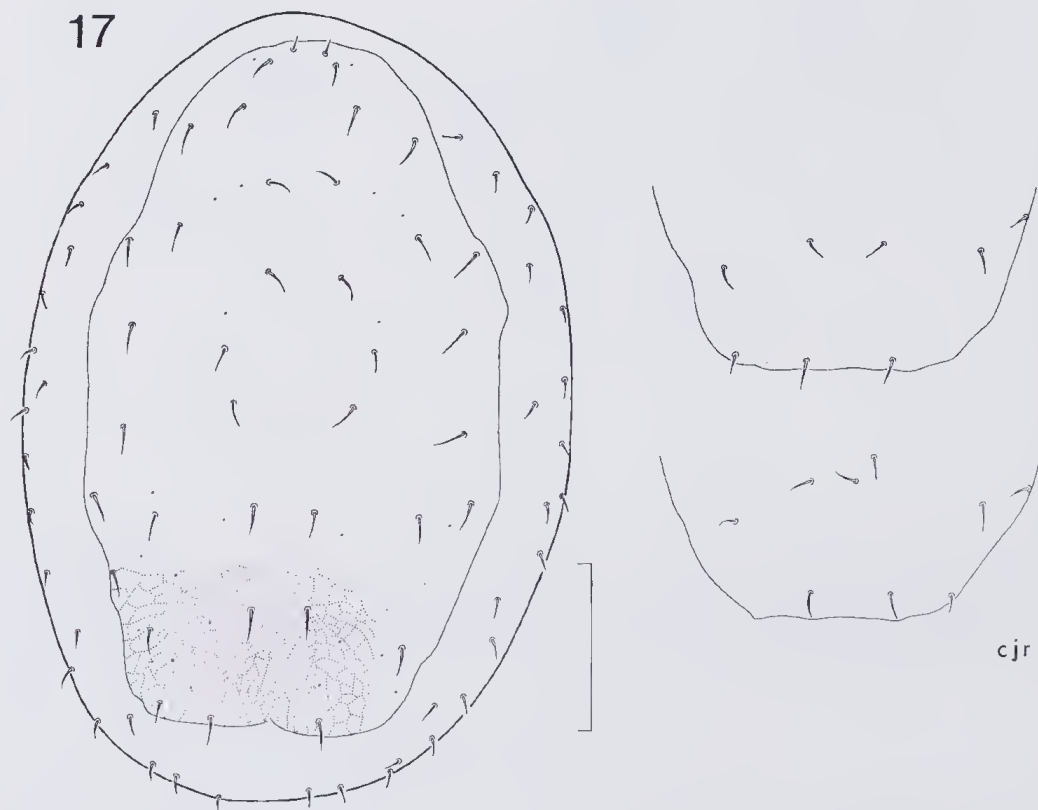


Fig. 17: *Hattena cometis* sp. nov. Dorsum ♀ (with variant terminal portions of dorsal shield).

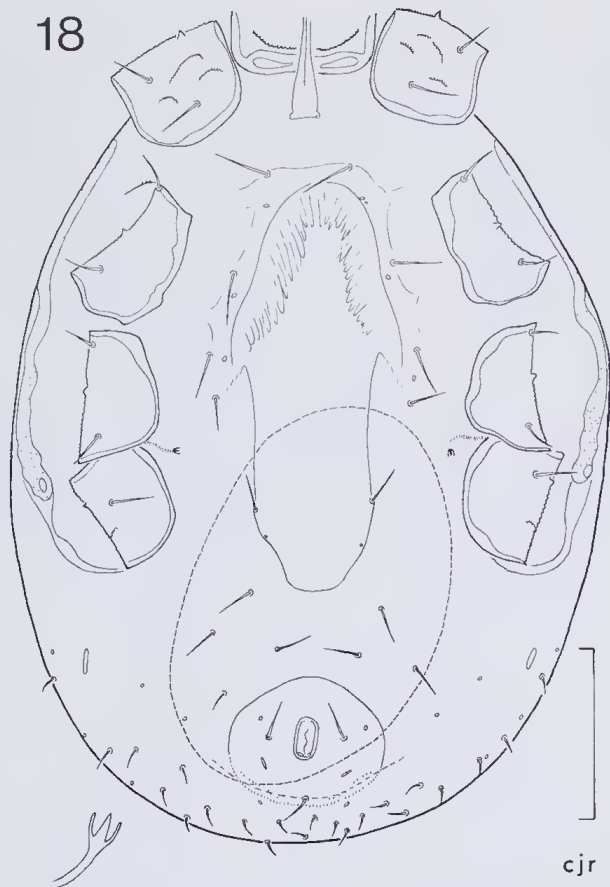
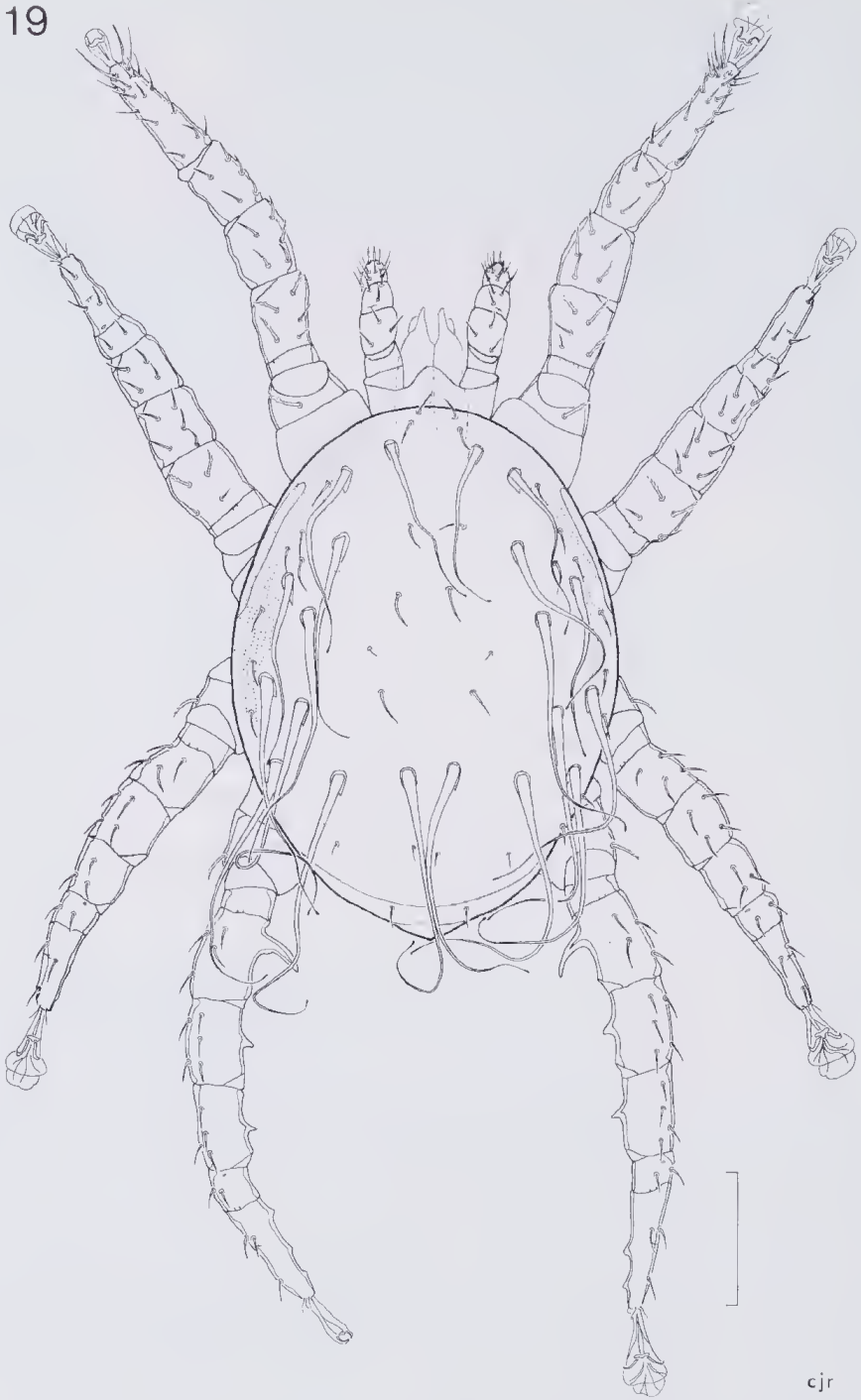


Fig. 18: *Hattena cometis* sp. nov. Venter ♀.

Venter as in *H. erosa*, except as follows. Sternal shield evident more by cessation of cuticular striae than as definite plate. Genital shield longer, taking in genital pores. Ventral cuticle with 14-15 pairs of setae of which first 1.2 are stronger. Peritremes extending forward to level of posterior margins of coxae I. Insemination apparatus as in *H. panopla*, but adductor canals shorter, cf. *N. novaehollandiae* Evans, 1963a. Egg as in *H. panopla*, but more ovate, 230 μm long, 150 μm wide.

Legs with holotrichous coxae, trochanters (I 1-1/3-0 on one side of one specimen), femora III-IV (better expressed 1-4/1-0 than 1-3/1-1), tibiae II-IV and tarsi II-IV (tarsus I not counted). Genu IV with seta pl_2 as in *H. panopla*, but also with pv (i.e. 2-5/2-2 compared with holotrichous 2-5/1-1). Femora I-II and genu-tibia I with same four unideficiencies as in *H. panopla* (variations — femur I: one specimen normal, another 2-5/3-1 [lacking pl_2] on one side, another 3-5/3-2, 3-5/3-4; femur II 2-4/2-1 [lacking one pv] on one side of two specimens; tibia I 1-5/3-2

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Fig. 19: *Hattena cometis* sp. nov. Dorsum ♂.

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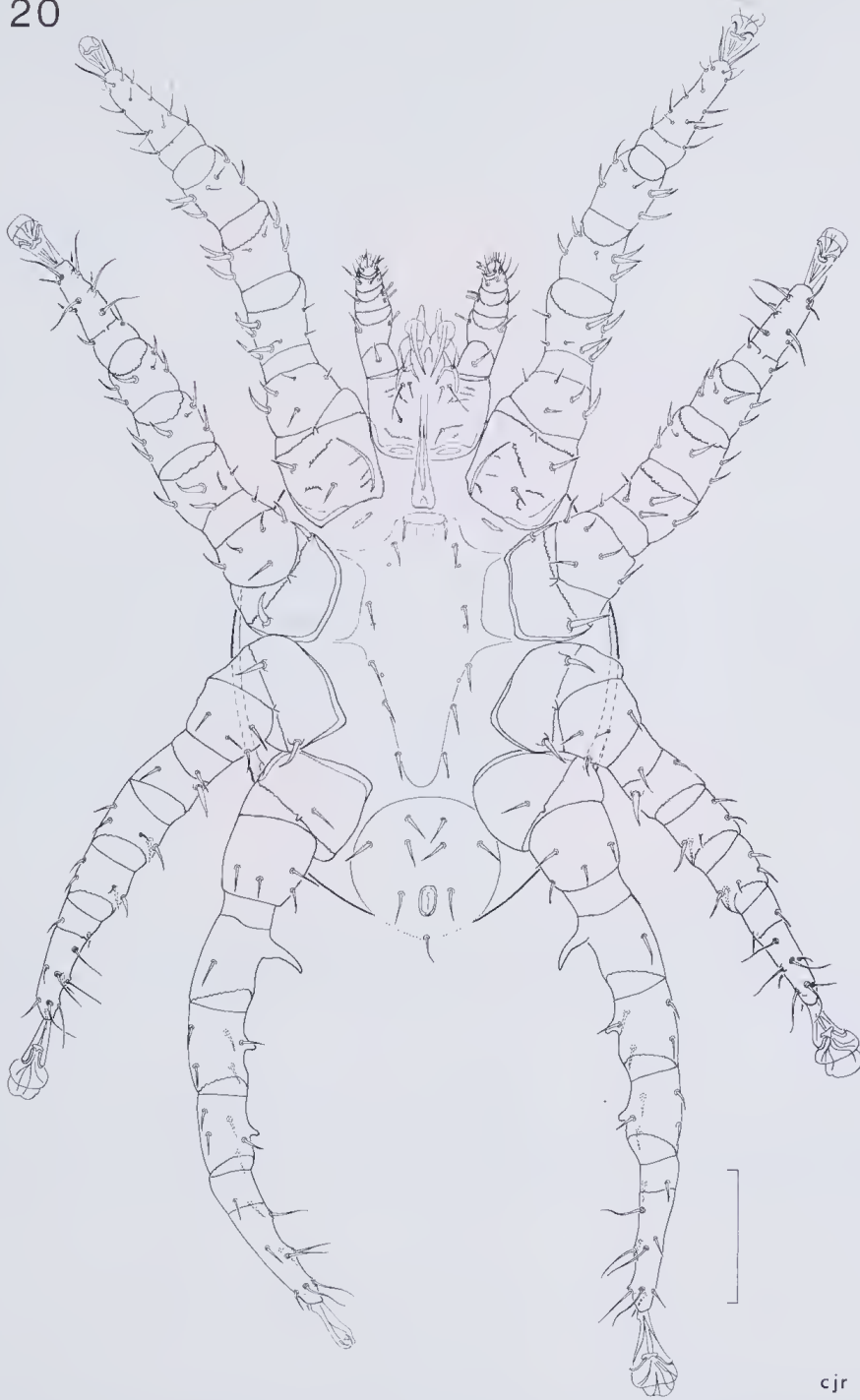


Fig. 20: *Hattena cometis* sp. nov. Venter ♂.

[lacking al_2] on one side of one specimen). Remaining two segments holotrichous, except as follows: genu II variable — 2-5/1-2 (lacking av) on both sides of one specimen, 2-5/1-2 (lacking av) on one side and 2-5/0-2 (lacking av and pv) on other side of another, and 2-5/0-2 (lacking av and pv) on both sides of another; genu III 2-4/1-1 (lacking pv). All setae as in *H. panopla*. No spine on anterodorsal margin of coxa II.

Male (Figs 19-20): Capitulum essentially as in ♀, except as follows. Setae c shorter, not reaching sides of basis. Hypostome with seta $h_2 > h_3$. Seta al on palpal femur spatulate. Chelicerae as in *H. panopla*, but details not clear.

Idiosoma 395 μm long, 115 μm wide. Dorsal shield not readily distinguishable humerally from reticulate cuticle, but surface otherwise granulate and marked by muscle insertions; setation as in ♀, at least medially, with 16 setae on one side and 18 on other, of which 10 pairs are hypertrophied, with characteristic insertions and spatulate tips.

Tritosternum bipartite as in ♀. Sternogenital shield granulate, but only weakly delineated and sharply tapered in posterior half; with usual five pairs of setae and three pairs of pores. Ventrianal shield bearing three pairs of setae in addition to setae aa and pa ; cribrum linear. Ventral cuticle somewhat crinkled, details not clear.

Leg setation as in ♀, except as follows. Femora III 1-4/2-0, IV with seta v transformed into large spur. Genua II-III holotrichous, IV with pv transformed into small spur. Tibia IV with pv transformed into small spur. Tarsi II-IV with av_{1-3} and pv_{1-2} normal, but set on small tubercle, cf. *H. panopla*.

Hosts and Localities

Running over beak and in and out of nostrils of yellow honeyeater, *Meliphaga flava* (Gould) (Passeriformes: Meliphagidae), Bamaga, Q., III.1975, R. Domrow & J.S. Welch (holotype ♀, allotype ♂). In QM.

In same circumstances on graceful honeyeater, *M. gracilis* (Gould), Bamaga etc. (2 paratype ♀♀). In QIMR.

On eastern spinebill, *Acanthorhynchus tenuirostris* (Latham) (Meliphagidae), 1.6 km W of Mount Keira, N.S.W., 3.VI.1972, H. Battam (2 ♀♀, not types). In QIMR.

KLEEMANNIA PLUMOSA (OUDEMANS, 1902)

Hughes (1976) recorded this cosmopolitan species both in association with mites of stored food products and as a free-living predator. It is known from Western Australia (Domrow, 1974).

Host and Localities

On western chestnut native mouse, *Pseudomys nanus* (Gould) (Rodentia: Muridae) (3092), Port Warrender, W.A., 25.X.1976 (1 ♀). In WAM.

Free-living, Arramall Cave, Arrowsmith River, near Dongara, W.A., 3.XI.1973, J.W.J. Lowry (2 ♀♀). In QIMR.

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